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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,520	11/20/2001	Bausan Yuan	10636-010-999	8615

24341 7590 06/03/2004

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EXAMINER

SHUTE, DOUGLAS M

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/988,520	Applicant(s) YUAN ET AL.	
	Examiner Douglas M. Shute	Art Unit 2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 May 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-33 and 37-45 is/are allowed.
- 6) ☒ Claim(s) 1, 3, 8-12 and 34-36 is/are rejected.
- 7) ☒ Claim(s) 2 and 4-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/28/02, 5/15/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-45 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 10 recites "said sensors" which is ambiguous as there are multiple types of sensor in claim 2. Correction is required.

5. Claim 11 recites "said sensor" which is ambiguous as there are multiple types of sensor in claim 2. Correction is required.

Allowable Subject Matter

6. Claims 2, and 4-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Claims 13-33, and 37-45 are allowed.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1, 3, 8-9, 12, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (5,812,420) (hereinafter Takahashi) in view of Houghton, Jr. et al. (5,379,980) (hereinafter Houghton, Jr.)

10. As per claim 1, Takahashi shows the invention substantially as claimed having an apparatus for supporting a stage, said apparatus comprising:

a base (e.g., figure 1, element 2);

a platform supported from said base (e.g., figure 1, element 6);
at least one stage configured to move about said platform (e.g., figure 1, element 20);

a plurality of pneumatic supports configured on said base to support said platform in a first direction (e.g., figure 1, elements 4A-4D);

a plurality of active supports configured on said base to support said platform in said first direction (e.g., figure 1 elements 7A-7D); and

at least one amplifier that supplies and regulates the power to said active supports (e.g., figure 3, elements 58a - 58d).

Takahashi does not specifically show at least one air control valve that supplies and regulates each pressure of said plurality of pneumatic supports. Houghton, Jr. shows the use of

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a valve to regulate pressure in a pneumatic support system for vibration isolation (e.g., figure 1, element 22). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the air control valve of Houghton, Jr. in the system of Takahashi in order to provide enhanced and refined control of the pneumatic supports of Takahashi.

11. As per claim 3, it is rejected for reasons given above for claim 1 and further as Takahashi shows three said pneumatic supports (e.g., claim 1, lines 18-19) and three said active supports (e.g., claim 1, lines 22-23), each said pneumatic support being positionally paired with one said active support (col. 6, lines 31-38).

12. As per claim 8, it is rejected for reasons similar to those given above for claim 1 where the air control valve of claim 1 is representative of the pressure control means of claim 8 and the amplifier of claim 1 is representative of the power control means of claim 8.

13. As per claim 9, it is rejected for reasons as given above for claim 1 and further as Takahashi shows the number of pneumatic supports is the same as the number of active supports (e.g., col. 6, lines 31-38).

14. As per claim 12, it is rejected for reasons as given above for claim 1 and further as Takahashi shows control elements for controlling the location of said at least one stage on said platform (e.g., col. 8, lines 4-6).

15. As per claim 34, it is rejected for reasons as given above for claim 1 and further as Takahashi shows the apparatus of claim 1 as an exposure apparatus (e.g., Abstract).


16. As per claim 35, it is rejected for reasons as given above for claim 34 and further as Takahashi shows a device manufactured with the exposure apparatus of claim 34 (e.g., col. 8, lines 43-51).

17. As per claim 36, it is rejected for reasons as given above for claim 34 and further as Takahashi shows a wafer on which an image has been formed by the exposure apparatus of claim 34 (e.g., col. 8, lines 43-51).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas M. Shute whose telephone number is (703) 305-5615. The examiner can normally be reached on M-F 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 703-308-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


May 27, 2004


Anthony Knight
Supervisory Patent Examiner
Group 3600